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CLAIMS

PATENT

What is claimed is:

A method of treating Parkinson's disease in a mammal, comprising administering a therapeutically effective amount of antisense oligonucleotide to the substantia nigra pars reticulata for the downregulation of glutamic acid decarboxylase.

- 10 **2.** The method of claim 1 wherein the isoform of said glutamic acid decarboxylase is GAD_{65} .
 - 3. The method of claim 1 wherein the isoform of said glutamic acid decarboxylase is GAD_{67} .
 - 4. The method of claim 1 where in the isoform of said glutamic acid decarboxylase is a combination of GAD_{65} and GAD_{67} .
- 5. A method of treating Parkinson's disease in a mammal, comprising
 20 administering a therapeutically effective amount of triplex oligonucleotide to the substantia nigra pars reticulata for the downregulation of glutamic acid decarboxylase.
- 6. The method of claim 5 wherein the isoform of said glutamic acid decarboxylase is GAD₆₅.
 - 7. The method of claim 5 wherein the isoform of said glutamic acid decarboxylase is GAD₆₇.
 - 8. The method of claim 5 wherein the isoform of said glutamic acid

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decarboxylase is GAD and GAD 67.

9. A method of treating Parkinson's disease in a mammal, comprising administering a therapeutically effective amount of antisense oligonucleotide to the internal globus pallidus for the downregulation of glutamic acid decarboxylase.

- 10. The method of claim 9 wherein said isoform of said glutamic acid decarboxylase GAD_{65} .
- 11. The method of claim 9 wherein the isoform of said glutamic acid decarboxylase is GAD₆₇.
 - 12. The method of claim 9 wherein the isoform of said glutamic acid decarboxylase is GAD_{65} and GAD_{67} .
 - 13. A method of treating Parkinson's disease in a mammal, comprising administering a therapeutically effective amount of triplex oligonucleotide to the internal globus pallidus for the downregulation of glutamic acid decarboxylase.
 - 14. The method of daim 13 wherein the isoform of said glutamic acid decarboxylase is GAD_{65} .
 - 15. The method of claim 13 wherein the isoform of said glutamic acid decarboxylase is GAD₆₇.
 - 16. The method of claim 13 wherein the isoform of said glutamic acid decarboxylase is GAD₆₅ and GAD₆₇.

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17. A method of treating Parkinson's disease in a mammal, comprising administering a therapeutically effective amount of antisense oligonucleotide to the substantia nigra pars reticulata for the downregulation of glutamate receptors.

- 18. A method of treating Parkinson's disease in a mammal, comprising administering a therapeutically effective amount of triplex oligonucleotide to the substantia nigra pars reticulata for the downregulation of glutamate receptors.
- 19. A method of treating Parkinson's disease in a mammal, comprising administering a therapeutically effective amount of antisense oligonucleotide to the internal globus pallidus for the downregulation of glutamate receptors.
 - 20. A method of treating Parkinson's disease in a mammal, comprising administering a therapeutically effective amount of triplex oligonucleotide to the internal globus pallidus for the downregulation of glutamate receptors.
 - 21. A method of treating Parkinson's disease in a mammal, comprising administering a therapeutically effective amount of antisense oligonucleotide to the thanlamic motor nuclei for the downregulation of GABA receptors.

22. A method of treating Parkinson's disease in a mammal, comprising administering a therapeutically effective amount of triplex oligonucleotide to the thanlamic motor nuclei for the downregulation of GABA receptors.

